(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(54) Title: NETWORK ENABLED GAMING KIOSK

(57) Abstract: A network enabled gaming entertainment system, which includes one or more interactive Internet gaming stations, is disclosed. The system comprises several components, including a network system, game station and a server. The software suite supporting the gaming entertainment system communicates between the various operating systems, game technologies and the user. It also facilitates Intranet and Internet connectivity, so that each kiosk or game station is configured for interactive Intranet and/or Internet access with one or more kiosks at the same and/or remote locations. State-of-the-art sound and video systems further enhance game play. A bar code reading device is usable with the system for authentication and authorization purposes. The system is also subscriber enabled. User interfaces, which include personal computers, mobile telephone and wireless devices, are interchangeable; this allows flexibility with other types of game input devices.

network launched a variety of popular interactive action games, including the ever-popular DukeNukem 3-D, which provided a full three-dimensional experience, was interactive with other gamers, and was almost virtual reality.

In late October 1997, Microsoft announced that its free Internet Game Zone <www.zone.com> had attracted more than half a million members, making it the largest gaming site on the Internet. Since Microsoft launched a re-designed Internet Game Zone in March, 1998, Game Zone has added approximately 100,000 new members per month. There are currently in excess of 1.5 million members.

Game Zone, a free site for gamers (connect-time charges may apply), generates revenue from advertising and now, with the addition of "Fighter Ace", has opened a second revenue stream from daily and monthly subscriptions for this premium game.

As is readily apparent, the interactive Internet gaming industry is both very new and rapidly expanding. The online gaming market had sales of $162,000 in 1996, and $277,000 in 1998. Projected online gaming revenues for 2002 are expected to be from $1.9 to $5 billion dollars. As such, the number of online gamers is expected to grow from approximately 6.9 million players in 1998 to 18.3 million players in 2001.

Currently, approximately 3 million members, 30 percent of AOL's nine million members, play Internet games an average of 15 hours per week. Empirical research paints an interesting Internet gamer customer profile. The gamer is an individual whose life is games and loves beer. Most gamers have an annual income (or are supported by someone with an income) that averages $70,000.

Gamers like new things and are very loyal to the product(s) they use. They typically tell everyone about the product(s) they use, both verbally and on the Internet. The average gamer is a male between the ages of 18 and 34. The average male gamer plays an average of 21 hours per week, and is currently 85 percent of the paying Internet game subscribers.

An estimated 80 percent of the computer-owning female population play games. Approximately 50 percent play games on the Internet or via online services. An estimated 15 percent play Internet "shooter" games. Recently, more and more females are signing on to the Internet for non-shooter games, such as strategy games like Monopoly™ and Clue™.

So serious is the gamer that a professional gamer's league has been organized. Hosted by TEN, the AMD Professional Gamer's League (PGL) was announced on October 22, 1997. The PGL's first year cash and prizes amounted to $250,000, and attracted more than $2 million in sponsorship money from such companies as AMD, 3M, Logitech International, S.A.,

## SUMMARY OF THE INVENTION

It is an object of the present invention to provide a network enabled gaming entertainment system that provides interactive Internet and/or Intranet gaming in a social setting where user's may play, eat, drink and socialize outside a home environment, for example.

It is another object of the present invention to provide a network enabled gaming entertainment system that does not limit a user's connection to the Internet and/or Intranet by physical presence at a specified location.

It is another object of the present invention to provide a network enabled gaming entertainment system that uses state-of-the-art sound and video systems to further enhance game play.

It is another object of the present invention to provide a network enabled gaming entertainment system that allows coordination of the computer games in the entertainment system from more than one geographical location.

It is another object of the present invention to provide a network enabled gaming entertainment system that has the capability to accommodate an immense array of games.

It is another object of the present invention to provide a network enabled gaming entertainment system that is subscriber-enabled.

It is another object of the present invention to provide a network enabled gaming entertainment system that is easy to use and install.

It is another object of the present invention to provide a network enabled gaming entertainment system that is compatible with existing computer games, and allows easy access to the games.

It is another object of the present invention to provide a network enabled gaming entertainment system that takes into account performance, reliability and price.

It is another object of the present invention to provide a network enabled gaming entertainment system that is capable of allowing direct link-up to Internet gaming service providers, as well as serving as a hookup link for tournaments among multiple locations.

It is another object of the present invention to provide a network enabled gaming entertainment system that has the ability to connect to multiple users through an Intranet and/or Internet.

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In one embodiment of the present invention, a physical representation of a game station or kiosk enclosure is a stand-along structure. Each kiosk is configured for Intranet and/or Internet access with one or more kiosks at the same and/or remote locations.

Game stations made in accordance with another embodiment of the present invention are also configured for interactive Intranet and/or Internet gaming access to other electronic audio/video data files through home, office and other electronic equipment, such as television, stereos, cable, modem, personal computers, mobile telephone and wireless devices.

Other components of the kiosk may include a user interface, which may comprise a keyboard or pointing devices. Alternatively and optionally, user interfaces may include a mouse and/or joystick and/or a magnetic card reader. Magnetic game cards may be removed from the database, and promotional intervals may optionally be automatically added as desired.

Interchangeability of user interfaces is another important feature of the present invention. It allows flexibility for other types of game input devices. This flexibility accommodates a wide variety of user game choices.

Each kiosk generally also includes a monitor, which may be inlayed into 'Net GameLink™ tables, and lighting. Also, each kiosk is configured for capability with a bar code reading device, for use with a magnetic card reader for example, for authentication and authorization purposes.

The third component is the network system. The network system, which provides the highest network throughput possible, generally consists of cabling, hubs, routers, network interface cards, and switches. Alternatively and optionally, the network system may also include software. Preferably, it is configured to provide local, Intranet and Internet connectivity. It is configured for use with both IPX/SPX protocol and TCP/IP.

The software suite supporting the gaming entertainment system of the present invention communicates between the various operating systems, game technologies and the user. Also, preferably, the software suite facilitates Intranet and Internet connectivity. The suite preferably includes the database management software, the cashier workstation application software, the game station application software, operating systems, and the like.

The database management software is preferably a Standard Query Language (SQL) database used, for instance, to keep track of the amount of game time remaining on each magnetic card. This software may also be used for location specific tracking.

Communication between the server, games and cashier work station is accomplished through common gateway interface (CGI) scripts, which are controlled through TCI/IP protocol

media: (2) detecting an authentication identifier in the data; (3) authenticating the data via interrogation of coded pre-strings and post-strings surrounding the unique identifier; and (4) outputting authentication status information regarding the media.

There has thus been outlined, rather broadly, the important features of the invention in order that the detailed description thereof that follows may be better understood, and in order that the present contribution to the art may be better appreciated. There are, of course, additional features of the invention that will be described hereinafter and which will form the subject matter of the claims appended hereto.

In this respect, before explaining at least one embodiment of the invention in detail, it is to be understood that the invention is not limited in its application to the details of construction and to the arrangements of the components set forth in the following description or illustrated in the drawings. The invention is capable of other embodiments and of being practiced and carried out in various ways. Also, it is to be understood that the phraseology and terminology employed herein are for the purpose of description and should not be regarded as limiting.

As such, those skilled in the art will appreciate that the conception, upon which this disclosure is based, may readily be used as a basis for the designing of other structures, methods and systems for carrying out the several purposes of the present invention. It is important, therefore, that the claims be regarded as including such equivalent constructions insofar as they do not depart from the spirit and scope of the present invention.

Further, the purpose of the foregoing abstract is to enable the U. S. Patent and Trademark Office and the public generally, and especially scientists, engineers and practitioners in the art, who are not familiar with patent or legal terms or phraseology, to determine quickly from a cursory inspection, the nature and essence of the technical disclosure of the application. The abstract is neither intended to define the invention of the application, which is measured by the claims, nor is it intended to be limiting as to the scope of the invention in any way.

The above objects of the invention, together with other apparent objects of the invention, along with the various features of novelty that characterize the invention, are pointed out with particularity in the claims annexed to and forming a part of this disclosure. For a better understanding of the invention, its operating advantages and the specific objects attained by its uses, reference should be had to the accompanying drawings and descriptive matter, which illustrates preferred embodiments of the invention.

computer. The procedures presented herein are not inherently related to a particular computer or other apparatus. Various general purpose machines may be used with programs written in accordance with the teachings herein, or it may prove more convenient to construct more specialized apparatus to perform the required method steps. The required structure for a variety of these machines will appear from the description given.

## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The following description is presented in the context of a particular application and its requirements. Various modifications to the preferred embodiment will be readily apparent to those skilled in the art, and the general principles defined herein may be applied to other embodiments and applications without departing from the spirit and scope of the invention. Thus, the present invention is not intended to be limited to the embodiment disclosed and shown, but is to be accorded the widest scope consistent with the principles and features disclosed herein.

Figure 1 shows a front, angled view of one embodiment of the network enabled gaming kiosk of the present invention. This kiosk enclosure 10 is designed to be opened using Microsoft's Windows software. The enclosure provides a high technology look without the customary monolithic feel. To further enhance the open look of the kiosk 10, all enclosures have been removed from the power supply and monitor 20.

The physical enclosure itself preferably has the dimensions of 6 x 3 x 3 feet, with full-length windows 30 on each side. The upper bay area 40 preferably houses the necessary computer programs and equipment. The mid bay area 50 is dedicated to the lighting controller/source. And the lower bay area 60 generally houses the sub-woofer, A/C wiring and uninterruptible power source equipment.

In a preferable embodiment, kiosk 10 is manufactured from a high grade particle board, and all corners are machined and rounded. Referring to Figure 2, the controls 70 are mounted on two shelves 80, 90 in the front of the enclosure. The lower shelf 90 is preferably made of the same material as the enclosure. The top shelf 80 is preferably made of clear plastic. Two handles 95 provide support for the upper shelf 80, and act as a light for the lower shelf 90.

Figure 3 describes an overall or conceptual view of the entities and relationships included in a preferred embodiment of the present invention. For completeness, it is to be understood that the instant invention is equally applicable to any standard network of computers, of which the Internet is an example. Such network of computers, for example,

The network system provides local, Intranet and Internet connectivity. The network is configured for use with both IPX/SPX protocol and TCP/IP. IPX is generally required by games for network communication when not set up for Internet operation.

Referring to Figure 3 in more detail, in a preferred embodiment, the server 100 consists of an AMD K-6 450 MHz processor. This is mounted on a Epox mother board with at least 128 megabytes of RAM (preferably 256 megabytes). Server 100 also uses the IDE interface and at least a 4.5 Gigabyte hard drive, preferably 9-gigabyte SCSI fast, ultra-wide hard drives and SCSI CD-ROM. Advantageously, the server may be configured to process and/or provide account information, gaming profiles and/or local/global gaming.

In one embodiment, each game station or kiosk 112 is configured with a 400 MHz, 3-D technology CPU, 128 megabytes of main system RAM, one megabyte of L2 cache, and an 8-gigabyte ultra DMA hard drive. The sound system consists of twin 50-watt, two-way main speakers with a 100-watt, 12-inch effects woofer. Alternatively and optionally, there are provisions for AC-3 surround sound.

To drive the sound system, a Sound Blaster Live interface card is installable. This, of course, can be updated, as new technology becomes available. Video capability is provided through a Viper V550 adapter, via a Monster 3DII Mpeg converter. This is the highest state-of-the art, while maintaining the widest compatibility. This too can be updated, as new technology becomes available. A 19-inch multi-sync, super-VGA open frame monitor is compatible with the system to provide video output. Open frame not only provides for cooling and easy maintenance, but also provides a high-tech look.

A preferred embodiment of the user interface for each game station 112 includes a joystick, mouse, and keyboard port connections. Different joysticks are able to be plugged in with ease in order to match the joystick with the type of game being played. Keyboards can be able to be easily changed, as can pointing devices. For example, a standard 101 key black keyboard is mountable on the lower shelf 90. The interchangeability of user interfaces in the present invention allows changeability for other types of game input devices.

It is advantageous to use a magnetic card reader for authentication of users (i.e., players, gamers and the like) in the preferred embodiment of the present invention. As such, a bar code reading device for player verification, for authentication and authorization purposes, is installable. All input devices, with the exception of the magnetic card reader, are generally not hard-mounted, for convenience of the user.

In a preferred embodiment, the cashier workstation 110 is running Windows NT Workstation and an application written in Micromedia Director 7.02. The cashier application receives input from a keyboard-mounted magnetic stripe reader (Low Coercivity Format) (not shown), and has the following functions.

5          When a card is "swiped", the information is authenticated via interrogation of coded pre- and post-strings, which surround the 16-digit unique identifier that is encoded magnetically on each card. The unique identifier contains a subcode sequence that can be used to track purchase location of the card. Once the card is authenticated, the cashier application communicates with the server 100 through TCP/IP and initiates an SQL query through CGI, as

10        earlier discussed. Server 100 then returns either the amount of available remaining game play time, or indicates that the card is new (i.e., not in the database).

Once the information is verified, the cashier application allows the addition or subtraction of time in 15-minute intervals, for instance. Preferably, time is stored as a five-digit string, providing two digits for minutes and three digits for hours. Magnetic game cards

15        may be removed from the database, and promotional intervals may be automatically added as needed.

The cashier workstation 110 also receives a cyclic, intervalized data input from each kiosk 112, reporting current status and providing error alerts. This data also contains current time use; this provides fault tolerance with respect to the database 104. Remote activation

20        and/or deactivation, and reset of individual kiosks 112, is accomplished via string data communication between the cashier applications and the individual kiosks 112.

Each gaming kiosk 112 preferably employs the Windows 98™ operating system and an application authored under Micromedia Director 7.02. The kiosk application, using Windows Application Programming Interface (API) calls, for example, analyzes the configuration of

25        each game station operating system, configures speed and audio parameters, and disables all direct user input and control. A promotional text stream is downloadable from a main office server via http: protocol, and stored as a variable string. After the startup sequence, a quick-time movie/video plays repeatedly, using Sorensen codec compression, for instance.

Figure 4 is a flow chart of the decision logic describing the authentication and

30        operational process of a preferred embodiment of the present invention. The process begins with user input, as at step 200 (S200).

Internet and/or Intranet gaming access to other electronic audio/video data files through home, office and other electronic equipment, such as television/stereos (not shown), cable/modem (not shown), and personal computers 124. Games and other data may emanate from, or be transmitted to, any one of these stations or devices, including mobile telephone 126 and

5       wireless devices 128.

Additionally, through the Internet 122, one or a plurality of networks 130 can be linked, including direct link-up to Internet gaming service providers. Internet connectivity allows a hookup link for users to play against each other with no geographic boundaries.

For example, users can play a wide variety of games from home, office or a social

10      establishment, against other users similarly (or not similarly) situated. Users can use the Internet as a hookup link for tournaments among multiple players in the same or multiple locations. Through an Internet gaming service provider, for instance, a user (or gamer) can play at the gaming entertainment system of the present invention, and later resume play at home, or at any user desired connectivity point. In another embodiment, users are able to relax at their

15      favorite social establishment, connect at a 'Net GameLink™ kiosk to the Internet, and both enjoy interactive Internet gaming and cruise the Internet.

The above embodiments are only to be construed as examples of the various different types of computer systems that may be utilized in connection with the computer assisted and/or computer implemented process of the present invention.

20      The many features and advantages of the invention are apparent from the detailed specification. Thus, it is intended by the appended claims to cover all such features and advantages of the invention that fall within the true spirit and scope of the invention.

Further, since numerous modifications and variations will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation

25      illustrated and described. Accordingly, all suitable modifications and equivalents may be resorted to, as falling within the scope of the invention.

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9.    The gaming entertainment system according to claim 3, wherein said interchangeable user interface includes one or more television, stereo, cable, modem, personal computer, mobile telephone and wireless device.

5    10.    A network enabled gaming kiosk comprising:

(a)    a network system configured to provide communications signals;

(b)    a server, which communicates with said network system, configured to process one or more of account information, gaming profiles and gaming; and

(c)    a game station configured for interactive Internet gaming.

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11.    The gaming entertainment kiosk according to claim 10, further including video and sound systems.

12.    The gaming entertainment kiosk according to claim 10, wherein said game

15    station includes at least one interchangeable user interface that allows flexibility for other game input devices.

13.    The gaming entertainment kiosk according to claim 10, further including a bar code reading device usable for authentication and authorization purposes.

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14.    The gaming entertainment kiosk according to claim 10, further configured to accommodate a plurality of games.

15.    The gaming entertainment kiosk according to claim 10, wherein said gaming

25    entertainment kiosk is subscriber enabled.

16.    The gaming entertainment kiosk according to claim 10, further configured for connectivity to one or more Internet gaming service providers.

30    17.    The gaming entertainment kiosk according to claim 10, further configured for network connectivity of multiple users each at the same or at multiple locations.

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27.     The system of claim 19, wherein said user interface means includes one or more television, stereo, cable, modem, personal computer, mobile telephone and wireless device.

28.     A gaming entertainment software suite, for use in a network enabled gaming entertainment system, comprises:

(a)     a database management software configured for one or more of location specific and data information tracking, and for synchronizing command signals;

(b)     a cashier software configured for interfacing with a computer medium reading device for user authentication;

(c)     a game station software configured for disabling all user input and control at each game station; and

(d)     an operating system for analyzing the configuration of each game station operating system.

29.     The gaming entertainment software suite according to claim 28, wherein the cashier software is further configured to interface between each game station and a server by providing remote activation/deactivation.

30.     The gaming entertainment software suite according to claim above 28, wherein the cashier software is further configured for resetting features.

31.     The gaming entertainment software suite according to claim above 28, wherein the cashier software is further configured to provide fault tolerance with respect to the database.

32.     The gaming entertainment software suite according to claim 28, wherein the game station software is capable of configuring speed and audio parameters.

33.     The gaming entertainment software suite according to claim 28, wherein the game station software stores one or more individual game profiles.

34.     A method for using a gaming entertainment system, comprising the steps of:
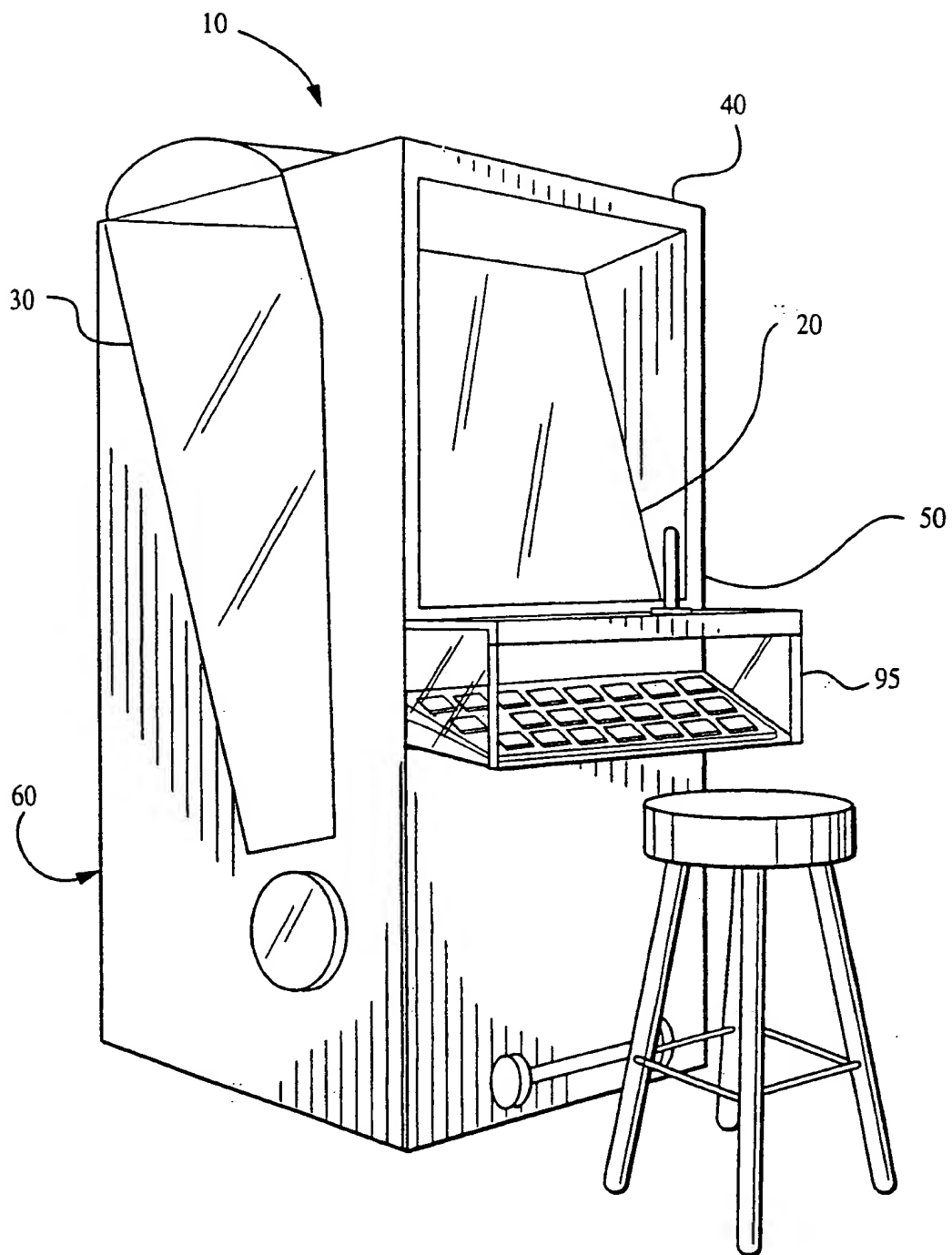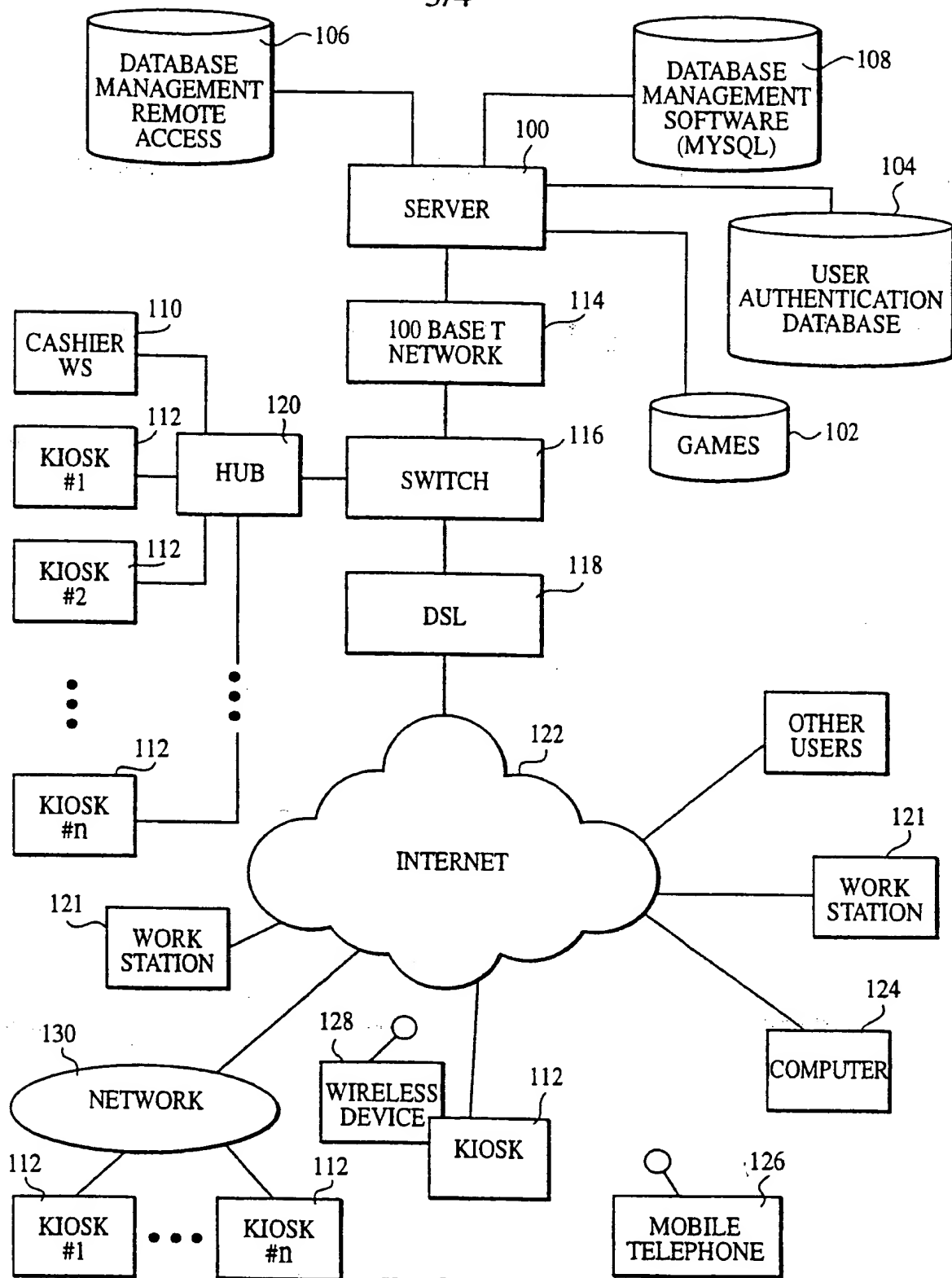(1) reading data from a media;

1/4



FIG. 1

FIG. 3

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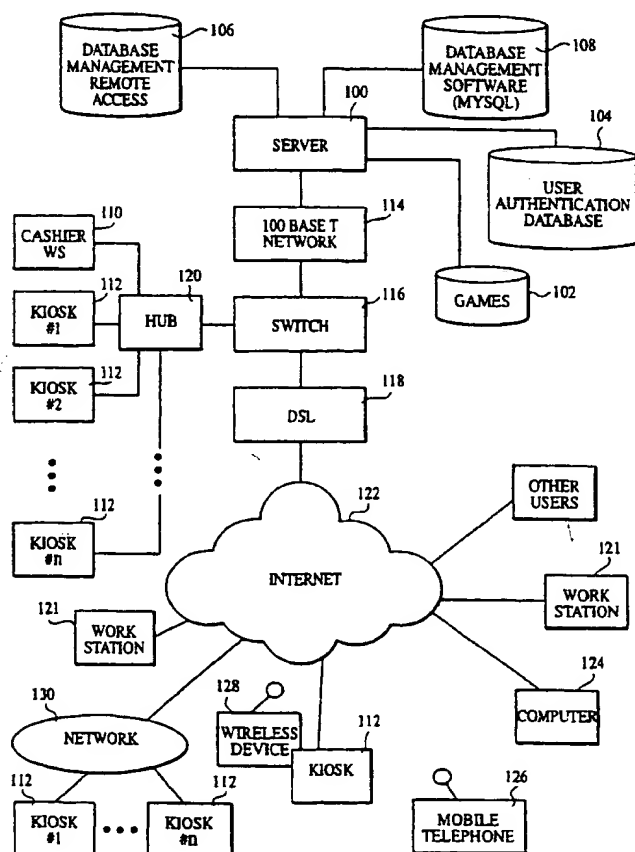
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WO 01/05477 A3

# INTERNATIONAL SEARCH REPORT

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC 7   A63F13/12

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC 7   A63F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

| Category ° | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|---|---|---|
| X | DE 197 30 002 A (NSM AG)<br>14 January 1999 (1999-01-14) | 1,2,4,5,<br>8,10,11,<br>13,14,<br>17,19,<br>20,<br>22-24,<br>26,28,29 |
| Y | column 1, line 56 –column 2, line 38<br>column 3, line 12 – line 26<br>column 3, line 46 – line 60<br>---<br>-/-- | 5,7,14,<br>16,23,25 |

[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

° Special categories of cited documents :

'A' document defining the general state of the art which is not considered to be of particular relevance

'E' earlier document but published on or after the international filing date

'L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

'O' document referring to an oral disclosure, use, exhibition or other means

'P' document published prior to the international filing date but later than the priority date claimed

'T' later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

'X' document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

'Y' document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

'&' document member of the same patent family

Date of the actual completion of the international search

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**FURTHER INFORMATION CONTINUED FROM  PCT/ISA/ 210**

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-33

    Providing interactive internet gaming in a social setting.

2. Claim : 34

    Authenticating a media